

INTRODUCTION

Thank you for purchasing the SHARP Scientific Calculator Model EL-501X.

About the **calculation examples (including some formulas and tables)**, refer to the reverse side of this English manual. **Refer to the number on the right of each title on the manual for use.**

After reading this manual, store it in a convenient location for future reference.

Operational Notes

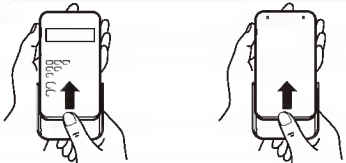
- Do not carry the calculator around in your back pocket, as it may break when you sit down. The display is made of glass and is particularly fragile.
- Keep the calculator away from extreme heat such as on a car dashboard or near a heater, and avoid exposing it to excessively humid or dusty environments.
- Since this product is not waterproof, do not use it or store it where fluids, for example water, can splash onto it. Raindrops, water spray, juice, coffee, steam, perspiration, etc. will also cause malfunction.
- Clean with a soft, dry cloth. Do not use solvents or wet cloth. Avoid using a rough cloth or anything else that may cause scratches.
- Do not drop it or apply excessive force.
- Never dispose of batteries in a fire.
- Keep batteries out of the reach of children.
- This product, including accessories, may change due to upgrading without prior notice.

SHARP will not be liable nor responsible for any incidental or consequential economic or property damage caused by misuse and/or malfunctions of this product and its peripherals, unless such liability is acknowledged by law.

- Press the RESET switch (on the front), with the tip of a ball-point pen or similar object, only in the following cases. Do not use an object with a breakable or sharp tip. Note that pressing the RESET switch erases all data stored in memory.
 - When using for the first time
 - After replacing the batteries
 - To clear all memory contents
 - When an abnormal condition occurs and all keys are inoperative.

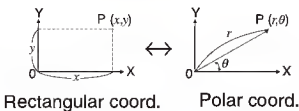
If service should be required on this calculator, use only a SHARP servicing dealer, SHARP approved service facility, or SHARP repair service where available.

Hard Case



Coordinate Conversions

- Before performing a calculation, select the angular unit.



Rectangular coord. Polar coord.

BINARY, OCTAL, DECIMAL, AND HEXADECIMAL OPERATIONS (N-BASE)

This calculator can perform the four basic arithmetic operations, calculations with parentheses and memory calculations using binary, octal, decimal, and hexadecimal numbers.

When performing calculations in each system, first set the calculator in the desired mode before entering numbers. It can also perform conversions between numbers expressed in binary, octal, decimal and hexadecimal systems.

Conversion to each system is performed by the following keys:

- 2ndF BIN : Converts to the binary system. "BIN" appears.
- 2ndF OCT : Converts to the octal system. "OCT" appears.
- 2ndF HEX : Converts to the hexadecimal system. "HEX" appears.
- 2ndF DEC : Converts to the decimal system. "BIN", "OCT", and "HEX" disappear from the display.

Conversion is performed on the displayed value when these keys are pressed.

Note: In this calculator, the hexadecimal numbers A – F are entered by pressing Exp , y^x , $\sqrt[n]{}$, DEG , \ln , and \log , and displayed as follows:

$$A \rightarrow f, B \rightarrow b, C \rightarrow c, D \rightarrow d, E \rightarrow e, F \rightarrow f$$

In the binary, octal, and hexadecimal systems, fractional parts cannot be entered. When a decimal number having a fractional part is converted into a binary, octal, or hexadecimal number, the fractional part will be truncated. Likewise, when the result of a binary, octal, or hexadecimal calculation includes a fractional part, the fractional part will be truncated. In the binary, octal, and hexadecimal systems, negative numbers are displayed as a complement.

COMPLEX NUMBER CALCULATIONS

To carry out addition, subtraction, multiplication, and division using complex numbers, press 2ndF CPLX to select the complex number mode.

- A complex number is represented in the $a + bi$ format. The "a" is the real part while the "bi" is the imaginary part. When inputting the real part, after inputting the number press a . When inputting the imaginary part, after inputting the number press b . To obtain the result press $=$.
- Immediately after completing calculation, you can recall the value of the real part with a , and the value of the imaginary part with b .
- If the complex numbers are represented as polar coordinates, press 2ndF $\rightarrow xy$ after they are input with a and b .

DISPLAY

- Floating point system



- Scientific notation system



Mantissa Exponent

(During actual use not all symbols are displayed at the same time.) If the value of mantissa does not fit within the range ± 0.000000001 – ± 9999999999 , the display changes to scientific notation. The display mode can be changed according to the purpose of the calculation.

2ndF : Appears when 2ndF is pressed, indicating that the functions shown in orange are enabled.

HYP : Indicates that hyp has been pressed and the hyperbolic functions are enabled. If 2ndF arc hyp are pressed, the symbols "2ndF HYP" appear, indicating that inverse hyperbolic functions are enabled.

DEG/RAD/GRAD: Indicates angular units and changes each time DRG is pressed. The default setting is DEG.

() : Appears when a calculation with parentheses is performed by pressing () .

BIN : Indicates that 2ndF BIN has been pressed. Binary system mode is selected.

OCT : Indicates that 2ndF OCT has been pressed. Octal system mode is selected.

HEX : Indicates that 2ndF HEX has been pressed. Hexadecimal system mode is selected.

CPLX : Indicates that 2ndF CPLX has been pressed. Complex number mode is selected.

STAT : Indicates that 2ndF STAT has been pressed. Statistics mode is selected.

M : Indicates that a numerical value is stored in the independent memory.

E : Appears when an error is detected.

BEFORE USING THE CALCULATOR

Key Notation Used in this Manual

In this manual, key operations are described as follows:

A	π	To specify A (HEX) : A
Exp		To specify π : 2ndF π
		To specify Exp : Exp

Functions that are printed in orange above the key require 2ndF to be pressed first before the key. Numbers are not shown as keys, but as ordinary numbers.

Power On and Off

Press ON/C to turn the calculator on, and OFF to turn it off.

Clearing Numbers

- Press ON/C to clear the entries except for a numerical value in the independent memory and statistical data.
- Press CE to clear the number entered prior to use of function key.
- In case of one digit correction of the entered number, press \rightarrow (right shift key).

STATISTICAL CALCULATIONS

Press 2ndF STAT to select statistics mode.

The following statistics can be obtained:

\bar{x}	Mean of samples (x data)
s_x	Sample standard deviation (x data)
σ_x	Population standard deviation (x data)
n	Number of samples
Σx	Sum of samples (x data)
Σx^2	Sum of squares of samples (x data)

Data Entry and Correction

Entered data are kept in memory until 2ndF STAT or OFF are pressed. Before entering new data, clear the memory contents.

[Data Entry]

Data DATA
Data X frequency DATA (To enter multiples of the same data)

[Data Correction]

Correction prior to pressing DATA :

Delete incorrect data with ON/C .

Correction after pressing DATA :

Reenter the data to be corrected and press 2ndF CD .

- The number displayed after pressing DATA or 2ndF CO during data entry or correction is the number of samples (n).

Statistical Calculation Formulas

In the statistical calculation formulas, an error will occur when:

- the absolute value of the intermediate result or calculation result is equal to or greater than 1×10^{100} .
- the denominator is zero.
- an attempt is made to take the square root of a negative number.

ERROR AND CALCULATION RANGES

Errors

An error will occur if an operation exceeds the calculation ranges, or if a mathematically illegal operation is attempted. In the case of an error, the display will show "E". An error can be cleared by pressing ON/C .

Calculation Ranges

- Within the ranges specified, this calculator is accurate to ± 1 of the least significant digit of the mantissa. However, a calculation error increases in continuous calculations due to accumulation of each calculation error. (This is the same for y^x , $x\sqrt[n]{}$, $n!$, e^x , \ln , etc., where continuous calculations are performed internally.) Additionally, a calculation error will accumulate and become larger in the vicinity of inflection points and singular points of functions.

- Calculation ranges
 $\pm 10^{-99} \sim \pm 9.999999999 \times 10^{99}$ and 0.

If the absolute value of an entry or a final or intermediate result of a calculation is less than 10^{-99} , the value is considered to be 0 in calculations and in the display.

Priority Levels in Calculation

This calculator performs operations according to the following priority:

- Functions such as \sin , x^2 , and $\%$
 - y^x , $x\sqrt[n]{}$
 - \times , \div
 - $+$, $-$
 - $=$, $M+$ and other calculation ending instruction
- Calculations which are given the same priority level are executed in sequence.
 - If parentheses are used, parenthesized calculations have precedence over any other calculations.
 - Parentheses can be continuously used up to 15 times unless pending calculations exceed 4.

INITIAL SET UP

Mode Selection

Normal mode: ON/C

Used to perform arithmetic operations and function calculations. **BIN**, **OCT**, **HEX**, **CPLX** and **STAT** are not displayed.

Binary, Octal, Decimal, or Hexadecimal system mode:

2ndF BIN , 2ndF OCT , 2ndF DEC or 2ndF HEX

Complex number mode: 2ndF CPLX

Used to perform arithmetic operations with complex numbers. To clear this mode, press 2ndF CPLX .

Statistics mode: 2ndF STAT

Used to perform statistical calculations. To clear this mode, press 2ndF STAT .

When executing mode selection, statistical data will be cleared even when reselecting the same mode.

- By pressing OFF or Automatic power off function, the mode is cleared and returned to the normal mode.

Selecting the Display Notation and Decimal Places

- When calculation result is displayed in the floating point system, pressing $\text{F} \leftrightarrow \text{E}$ displays the result in the scientific notation system. Pressing $\text{F} \leftrightarrow \text{E}$ once more displays the result again in the floating point system.
- Pressing 2ndF TAB and any value between 0 and 9 specifies the number of decimal places in the calculation result. To clear the setting of decimal places, press 2ndF TAB \cdot .

100000+3=			
[Floating point]	ON/C 100000 \div 3 $=$		33333.33333
[TAB set to 2]	2ndF TAB 2		33333.33
→[Scientific notation]	$\text{F} \leftrightarrow \text{E}$		3.33 04
→[Floating point]	$\text{F} \leftrightarrow \text{E}$ 2ndF TAB \cdot		33333.33333

- If the value for floating point system does not fit in the following range, the calculator will display the result using scientific notation system:
 $0.000000001 \leq 1 \times 1 \leq 99999999999$

Determination of the Angular Unit

In this calculator, the following three angular units (degrees, radians, and grads) can be specified.



SCIENTIFIC CALCULATIONS

- Calculate in the normal mode.
- In each example, press ON/C to clear the display.

Arithmetic Operations

- The closing parenthesis) just before $=$ or $M+$ may be omitted.
- When entering only a decimal place, it is not necessary to press 0 before . .

Constant Calculations

- In the constant calculations, the addend becomes a constant. Subtraction and division are performed in the same manner. For multiplication, the multiplicand becomes a constant.

Functions

- Refer to the calculation examples of each function.
- For most calculations using functions, enter numerical values before pressing the function key.

Random Numbers

A pseudo-random number with three significant digits can be generated by pressing 2ndF RANDOM . Random number generation is not possible when binary/octal/hexadecimal system mode is set.

Angular Unit Conversions

Each time 2ndF DRG are pressed, the angular unit changes in sequence.

Memory Calculations

This calculator has one independent memory (M). It is available in the normal mode and binary, octal, hexadecimal system mode.

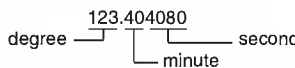
- The independent memory is indicated by the three keys: STO , RCL , $M+$. Before starting a calculation, clear the memory by pressing ON/C and STO .
- A value can be added to or subtracted from an existing memory value. When subtracting a number from the memory, press +/- and $M+$.
- The contents of the memory are retained even when the calculator is turned off. A value stored in memory will thus remain until it is changed or until the batteries run out.

Chain Calculations

This calculator allows the previous calculation result to be used in the following calculation. The previous calculation result will not be recalled after entering multiple instructions.

Time, Decimal and Sexagesimal Calculations

This calculator performs decimal-to-sexagesimal conversion and sexagesimal-to-decimal conversion. In addition, the four basic arithmetic operations and memory calculations can be carried out using the sexagesimal system. Notation for sexagesimal is as follows:



Note: When the calculation or conversion result is converted, a residual may occur.

SPECIFICATIONS

Calculations:	Scientific calculations, binary/octal/hexadecimal number calculations, complex number calculations, statistical calculations, etc.
Internal calculations:	Mantissas of up to 12 digits
Pending operations:	4 calculations
Power source:	3V \approx (DC): Alkaline batteries (LR1130 or equivalent) $\times 2$
Operating time:	Approx. 1800 hours when continuously displaying 55555. at 25°C (77°F). Varies according to use and other factors.
Operating temperature:	0°C – 40°C (32°F – 104°F)
External dimensions:	75mm (W) \times 144mm (D) \times 10mm (H) 2-15/16" (W) \times 5-21/32" (D) \times 13/32" (H)
Weight:	Approx. 73 g (0.17 lb) (Including batteries)
Accessories:	Batteries $\times 2$ (installed), operation manual, and hard case

FOR MORE INFORMATION ABOUT SCIENTIFIC CALCULATOR

Visit our Web site.
<http://sharp-world.com/calculator/>



Fig. 1

Fig. 2

Automatic Power Off Function

This calculator will turn itself off to save battery power if no key is pressed for approximately 7 minutes.

CALCULATION EXEMPLES
ANWENDUNGSBEISPIELE
EXEMPLES DE CALCUL
EJEMPLOS DE CÁLCULO
EXEMPLOS DE CÁLCULO
ESEMPI DI CALCOLO
REKENVOORBEELDEN
PÉLDASZÁMÍTÁSOK
PŘÍKLADY VÝPOČTŮ
RÄKNEEEXEMPEL
LASKENTAESIMERKKEJÄ
ПРИМЕРЫ ВЫЧИСЛЕНИЙ
UDREGNINGSEKSEMPLER
ตัวอย่างการคำนวณ
نماذج للحسابات
計算例子
CONTOH-CONTOH PENGHITUNGAN
CONTOH-CONTOH PERHITUNGAN
CÁC VÍ DỤ PHÉP TÍNH

[1]	ON/C	CE	→	↑	
3x	3	(X)			3.
		ON/C			0.
4x5	4	(X)	5		5.
↓		CE			0.
4x5+7=	6	(+)	7	=	31.
134	134				134.
↓		→	→		1.
123	23				123.
3 ⁴ →4 ³	3	y ^x	4	2ndF	(↑) =
					64.
[2]	(+)	(-)	(X)	(÷)	(()) (+/-) Exp
45+285÷3=	ON/C	45	(+)	285	(÷) 3 (=)
					140.
18÷6=	(()	18	(+)	6	() (÷)
15-8=	(()	15	(-)	8	() (=)
					3.428571429
42x(-5)+120=	42	(X)	5	(+/-)	(+) 120 (=)
					-90.
(5×10 ³)+(4×10 ⁻³)=	5	Exp	3	(÷)	4
	3	(+/-)	=		
					1250000.

[11] CPLX **a** **b** **→fθ** **→xy**

CPLX **0.**

(2ndF) **CPLX**

(12-6i) + (7+15i) **12** **a** **6** **(+/-)** **b** **+** **7** **a** **15** **b** **=** **8.**

-(11+4i) = **-** **11** **a** **4** **b** **=** **5.**

b **8.**

a **5.**

6x(7-9i) × **6** **a** **x** **7** **a** **9** **(+/-)** **b** **x** **222.**

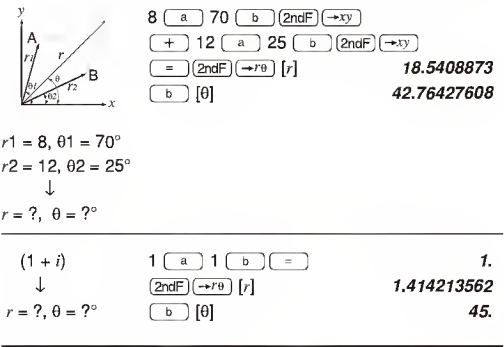
(-5+8i) = **5** **(+/-)** **a** **8** **b** **=** **606.**

b

16x(sin30°+icos30°) = **16** **a** **x** **30** **(sin)** **a** **30** **(cos)** **b** **b**

(sin60°+icos60°) **÷** **60** **(sin)** **a** **60** **(cos)** **b** **b** **=** **13.85640646**

b **8.**



	STAT	DATA	CD	\bar{X}	Sx	σ_x	n	Σx	Σx^2
DATA									
95				2ndF	STAT				0.
80				95	DATA				1.
80				80	X	2	DATA		3.
75				75	X	3	DATA		6.
75				50	DATA				7.
75									
50									
\bar{X} =					\bar{X}				75.71428571
σ_x =					2ndF	σ_x			12.37179148
n =						n			7
Σx =					2ndF	Σx			530.
Σx^2 =					2ndF	Σx^2			41200.
s_x =						Sx			13.3630621
s_x^2 =						X^2			178.5714286

34+57=

34

+

57

=

91.

45+57=

45

=

102.

79-59=

79

-

59

=

20.

56-59=

56

=

-3.

56÷8=

56

÷

8

=

7.

92÷8=

92

=

11.5

68×25=

68

×

25

=

1700.

68×40=

40

=

2720.

4

sin

cos

tan

sin⁻¹

cos⁻¹

tan⁻¹

π

ORG

hyp

arc hyp

ln

log

e^x

10^x

1/X

X²

√

y^x

√y

√y

nl

%

$\sin 60 [^\circ] =$	ON/C 60 (sin)	0.866025403
$\cos \frac{\pi}{4} [\text{rad}] =$	DRG (2ndF) π (÷) 4 = (cos)	0.707106781
$\tan^{-1} 1 = [g]$	DRG 1 (2ndF) (tan⁻¹) DRG	50.
$(\cosh 1.5 + \sinh 1.5)^2 =$	ON/C ({ 1.5 (hyp) (cos) (+) 1.5 (hyp) (sin) () (x²)	20.08553692
$\tanh^{-1} \frac{5}{7} =$	5 (÷) 7 = (2ndF) (arc hyp) (tan)	0.895879734
$\ln 20 =$	20 (ln)	2.995732274
$\log 50 =$	50 (log)	1.698970004
$e^3 =$	3 (2ndF) (e^x)	20.08553692
$10^{1.7} =$	1.7 (2ndF) (10^x)	50.11872336
$\frac{1}{6} \div \frac{7}{7} =$	6 (2ndF) (1/X) (+) 7 (2ndF) (1/X) =	0.309523809
$8^{-2} - 3^4 \times 5^2 =$	8 (y^x) 2 (+/−) (−) 3 (y^x) 4 (×) 5 (x²) =	−2024.984375
$(12^3)^{\frac{1}{4}} =$	12 (y^x) 3 (y^x) 4 (2ndF) (1/X) =	6.447419591
$\sqrt[4]{49} - \sqrt[4]{81} =$	49 (√) (−) 81 (2ndF) (√ y) 4 =	4.
$\sqrt[3]{27} =$	27 (2ndF) (√ y)	3.
$4! =$	4 (2ndF) (n!)	24.
$500 \times 25\% =$	500 (×) 25 (2ndF) (%) =	125.
$120 \div 400 = ?\%$	120 (÷) 400 (2ndF) (%) =	30.
$500 + (500 \times 25\%) =$	500 (+) 25 (2ndF) (%) =	625.
$400 - (400 \times 30\%) =$	400 (−) 30 (2ndF) (%) =	280.

STAT

DATA	2ndF (STAT) 2ndF (STAT)	0.
30	30 (DATA)	1.
40	40 (X) 2 (DATA)	3.
40	50 (DATA)	4.
50		
↓		
DATA	50 2ndF (CD)	3.
30	40 (X) 2 2ndF (CD)	1.
45		
45	45 (X) 3 (DATA)	4.
45	60 (DATA)	5.
60		

[13]

















$\bar{x} = \frac{\sum x}{n}$	$\sigma x = \sqrt{\frac{\sum x^2 - n\bar{x}^2}{n}}$
$sx = \sqrt{\frac{\sum x^2 - n\bar{x}^2}{n-1}}$	$\Sigma x = x_1 + x_2 + \dots + x_n$ $\Sigma x^2 = x_1^2 + x_2^2 + \dots + x_n^2$

[14]

Function Funktion Fonction Función Função Funzioni Functie Függvény Funkce Funktion Funktio Функция Funktion ฟังก์ชัน الفا 函数 Fungsi Fungsi Hàm số	Dynamic range zulässiger Bereich Plage dynamique Rango dinámico Gama dinâmica Campi dinamici Rekencapaciteit Megengedett számítási tartomány Dynamický rozsah Definitionsområde Dynaaminen ala Динамический диапазон Dynamikområde พิสัยในการคำนวณ النطاق الديناميكي 取值范围 Julat dinamik Kisaran dinamis Giới hạn Động
sin x, tan x	DEG: $ x \leq 4.999999999 \times 10^{10}$ (tan x : $ x \neq 90 (2n-1)^\circ$) RAD: $ x \leq 785398163.3$ (tan x : $ x \neq \frac{\pi}{2} (2n-1)$) GRAD: $ x \leq 4.999999999 \times 10^{10}$ (tan x : $ x \neq 90 (2n-1)^\circ$)
cos x	DEG: $ x \leq 4.500000008 \times 10^{10}$ RAD: $ x \leq 785398164.9$ GRAD: $ x \leq 5.000000009 \times 10^{10}$
sin ⁻¹ x, cos ⁻¹ x	$ x \leq 1$
tan ⁻¹ x, $\sqrt[3]{x}$	$ x < 10^{100}$
ln x, log x	$10^{-99} \leq x < 10^{100}$
e ^x	$-10^{100} < x \leq 230.2585092$
10 ^x	$-10^{100} < x < 100$
sinh x, cosh x	$ x \leq 230.2585092$

- The range of the results of inverse trigonometric functions
- Der Ergebnisbereich für inverse trigonometrische Funktionen
- Plage des résultats des fonctions trigonométriques inverses
- El rango de los resultados de funciones trigonométricas inversas
- Gama dos resultados das trigonométricas inversas
- La gamma dei risultati di funzioni trigonometriche inverse
- Het bereik van de resultaten van inverse trigonometrie
- Az inverz trigonometriaí funkciók eredmény-tartománya
- Rozsah výsledků inverzních trigonometrických funkcí
- Omårng för resultaten av omvända trigonometriska funktioner
- Käänteisten trigonometristen funktioiden tulosten alue
- Диапазон результатов обратных тригонометрических функций
- Område för resultatet af omvendte trigonometriske funktioner
- พื้นที่ของผลลัพธ์ของฟังก์ชันตรีโกณมิติผกผัน
- نطاق نتائج الدالة العكسية
- 反三角函数计算结果的范围
- Julat hasil fungsi trigonometri songsang
- Kisanar hasil fungsi trigonometri inversi
- Giới hạn của các kết quả của các hàm số lượng giác nghịch đảo

	$\theta = \sin^{-1} x, \theta = \tan^{-1} x$	$\theta = \cos^{-1} x$
DEG	$-90 \leq \theta \leq 90$	$0 \leq \theta \leq 180$
RAD	$-\frac{\pi}{2} \leq \theta \leq \frac{\pi}{2}$	$0 \leq \theta \leq \pi$
GRAD	$-100 \leq \theta \leq 100$	$0 \leq \theta \leq 200$

[5] 		
$90^\circ \rightarrow [\text{rad}]$	 90  	1.570796327
$\rightarrow [g]$	 	100.
$\rightarrow [^\circ]$	 	90.
<hr/>		
$\sin^{-1} 0.8 = [^\circ]$	0.8  	53.13010235
$\rightarrow [\text{rad}]$	 	0.927295218
$\rightarrow [g]$	 	59.03344706
$\rightarrow [^\circ]$	 	53.13010235

[6]	[RCL]	[STO]	M+	
<hr/>				
	[ON/C]	[STO]	8	[X]
			2	=
			[STO]	
$24 \div (8 \times 2) =$	24	[÷]	[RCL]	=
$(8 \times 2) \times 5 =$	[RCL]	[X]	5	=
<hr/>				
	[ON/C]	[STO]		
$12 + 5$	12	[+]	5	=
			M+	
$\rightarrow 2 + 5$	2	[+]	5	=
			[+/-]	M+
$\rightarrow 12 \times 2$	12	[X]	2	=
			M+	
M	[RCL]			
<hr/>				
$\$1 = ¥140$	140	[STO]		
$¥33,775 = \$?$	33775	[÷]	[RCL]	=
$\$2,750 = ¥?$	2750	[X]	[RCL]	=
<hr/>				
$r = 3\text{cm}$	3	[STO]		
$\pi r^2 = ?$	2ndF	[π]	[X]	[RCL]
	[x²]	=		
<hr/>				
				28.27433388

$\tanh x$	$ x < 10^{100}$
$\sinh^{-1} x$	$ x < 5 \times 10^{99}$
$\cosh^{-1} x$	$1 \leq x < 5 \times 10^{99}$
$\tanh^{-1} x$	$ x < 1$
x^2	$ x < 10^{50}$
\sqrt{x}	$0 \leq x < 10^{100}$
$1/x$	$ x < 10^{100} \ (x \neq 0)$
$n!$	$0 \leq n \leq 69^*$
→D.MS →DEG	$ x < 1 \times 10^{100}$
$x, y \rightarrow r, \theta$	$ x , y < 10^{50} \quad \left \frac{y}{x} \right , x^2 + y^2 < 10^{100}$
$r, \theta \rightarrow x, y$	$0 \leq r < 10^{100}$ DEG: $ \theta < 4.5 \times 10^{10}$ RAD: $ \theta \leq 785398163.3$ GRAD: $ \theta < 5 \times 10^{10}$
DRG ►	DEG→RAD, GRAD→DEG: $ x < 10^{100}$ RAD→GRAD: $ x < \frac{\pi}{2} \times 10^{98}$
y^x	• $y > 0$: $-10^{100} < x \ln y \leq 230.2585092$ • $y = 0$: $0 < x < 10^{100}$ • $y < 0$: $x = n$ ($0 < x < 1$; $\frac{1}{x} = 2n-1, x \neq 0$)*, $-10^{100} < x \ln y \leq 230.2585092$
$x\sqrt{y}$	• $y > 0$: $-10^{100} < \frac{1}{x} \ln y \leq 230.2585092 \ (x \neq 0)$ • $y = 0$: $0 < x < 10^{100}$ • $y < 0$: $x = 2n-1$ ($0 < x < 1$; $\frac{1}{x} = n, x \neq 0$)*, $-10^{100} < \frac{1}{x} \ln y \leq 230.2585092$
$(A+B) \div (C+D)$ $(A+B) \div (C-D)$	$ A \pm C < 10^{100}$ $ B \pm D < 10^{100}$
$(A+B) \times (C+D)$	$(AC - BD) < 10^{100}$ $(AD + BC) < 10^{100}$
$(A+B) \div (C+D)$	$\frac{AC + BD}{C^2 + D^2} < 10^{100}$ $\frac{BC - AD}{C^2 + D^2} < 10^{100}$ $C^2 + D^2 \neq 0$
→DEC →BIN →OCT →HEX	DEC : $ x \leq 9999999999$ BIN : $1000000000 \leq x \leq 1111111111$ $0 \leq x \leq 1111111111$ OCT : $4000000000 \leq x \leq 7777777777$ $0 \leq x \leq 7777777777$ HEX : $FDABF41C01 \leq x \leq FFFFFFFF$ $0 \leq x \leq 2540BE3FF$

* n: integer / ganze Zahlen / entier / entero / inteiro / intero /
geheel getal / egész számok / celé číslo / heltal /
kokonaishuku / целые / heltal / จำนวนเต็ม / عدد صحيح /
整数 / integer / bilangan bulat / số nguyên

[7]						
6+4=ANS	ON/C	6	+	4	=	10.
ANS+5	+	5	=			15.
44+37=ANS		44	+	37	=	81.
$\sqrt{\text{ANS}}$ =	$\sqrt{}$					9.

[8] ◀DEG ◀DMS		
12°39'18"05 → [10]	ON/C 12.391805 ◀DEG	12.65501389
123.678 → [60]	123.678 2ndF ◀DMS	123.404080
sin62°12'24" = [10]	62.1224 ◀DEG sin	0.884635235

[9] $\rightarrow r\theta$ $\rightarrow xy$

ON/C 6 4

$\begin{pmatrix} x = 6 \\ y = 4 \end{pmatrix} \rightarrow \begin{pmatrix} r = \\ \theta = [^\circ] \end{pmatrix}$

7.211102551
33.69006753
7.211102551

14 36

$\begin{pmatrix} r = 14 \\ \theta = 36[^\circ] \end{pmatrix} \rightarrow \begin{pmatrix} x = \\ y = \end{pmatrix}$

 $\rightarrow xy$

11.32623792
8.228993532
11.32623792

[10] <input type="button" value="BIN"/> <input type="button" value="OCT"/> <input type="button" value="HEX"/> <input type="button" value="DEC"/>		
DEC(25)→BIN	<input type="button" value="ON/C"/> <input type="button" value="2ndF"/> <input type="button" value="DEC"/> 25 <input type="button" value="2ndF"/> <input type="button" value="BIN"/>	11001.
HEX(1AC)	<input type="button" value="ON/C"/> <input type="button" value="2ndF"/> <input type="button" value="HEX"/> 1AC	
→ BIN	<input type="button" value="2ndF"/> <input type="button" value="BIN"/>	110101100.
→ OCT	<input type="button" value="2ndF"/> <input type="button" value="OCT"/>	654.
→ DEC	<input type="button" value="2ndF"/> <input type="button" value="DEC"/>	428.
BIN(1010-100)	<input type="button" value="ON/C"/> <input type="button" value="2ndF"/> <input type="button" value="BIN"/> () 1010 (-) 100 ()	
×11 =	<input type="button" value="X"/> 11 <input type="button" value="="/>	10010.
HEX(1FF)+ OCT(512)=	<input type="button" value="ON/C"/> <input type="button" value="2ndF"/> <input type="button" value="HEX"/> 1FF <input type="button" value="2ndF"/> <input type="button" value="OCT"/> <input type="button" value="+"/> 512 <input type="button" value="="/>	1511.
HEX(?)	<input type="button" value="2ndF"/> <input type="button" value="HEX"/>	349.
2FEC- 2C9E=(A)	<input type="button" value="ON/C"/> <input type="button" value="STO"/> <input type="button" value="2ndF"/> <input type="button" value="HEX"/> 2FEC (-) 2C9E <input type="button" value="M+"/>	34E.
+)2000- 1901=(B)	2000 (-) 1901 <input type="button" value="M+"/>	6FF.
(C)	<input type="button" value="RCL"/>	A4d.
→ DEC	<input type="button" value="2ndF"/> <input type="button" value="DEC"/>	2637.

For Europe only:

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